

Climates Changes x Cultural Heritage Czech Republic

Ing. Sylvie Jarešová

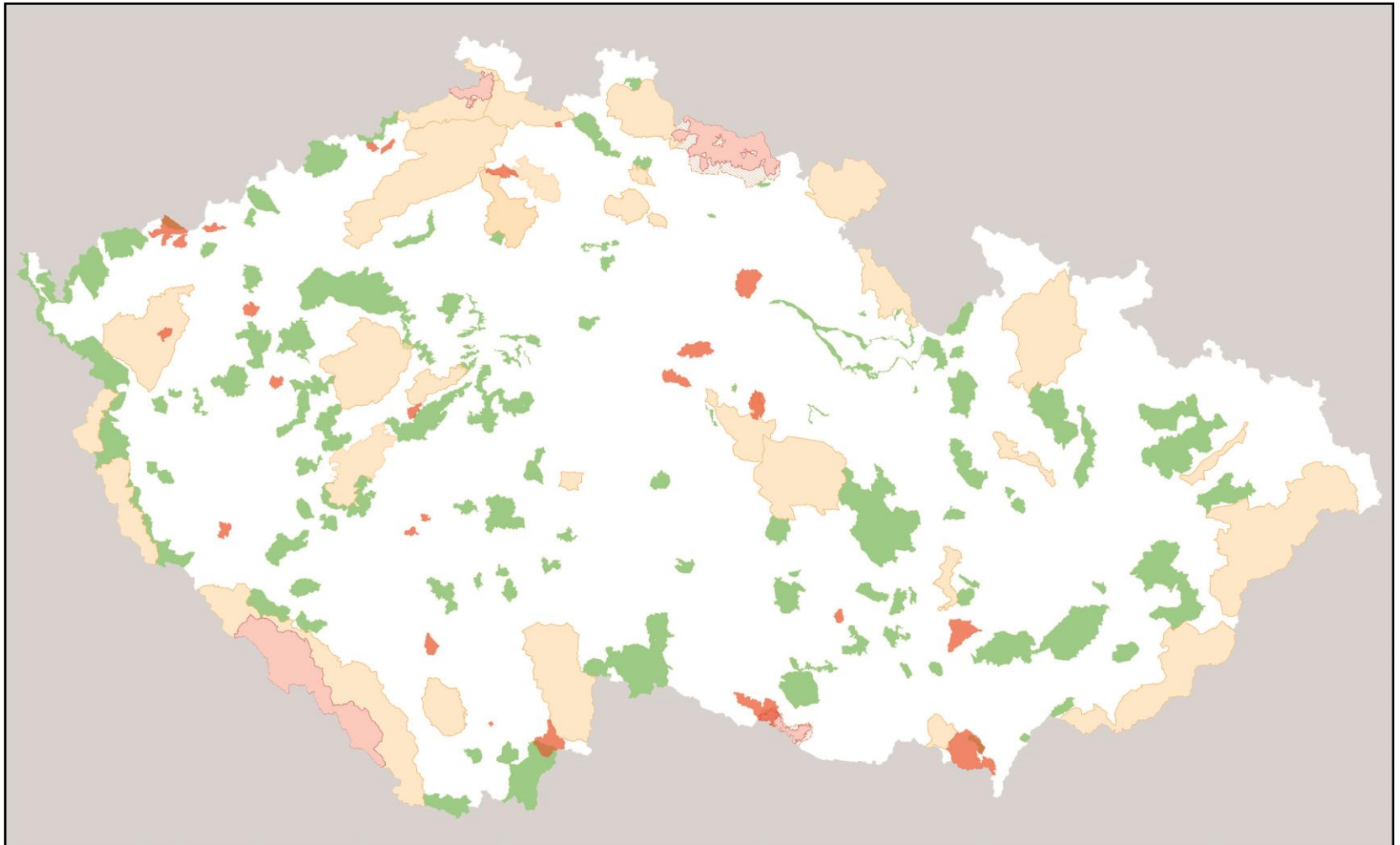
National Heritage Institute





Directorate General in Prague

National Heritage Institute



Types of protected landscape



-  National parks / **NP**
-  Protected landscape areas / **CHKO**
-  Natural parks/ **PP**
-  Landscape heritage zone / **KPZ**

25 Protected Historic Landscapes KPZ

Cultural landscapes and their categorization

- a composed cultural landscape, designed and created intentionally by man (an area tied into significant architecture, ways of the cross, etc.);
- an organically evolved landscape, divided further into relict (or fossil) and continuing (still evolving);
- an associative cultural landscape, focused on protecting the memory of historical events, in our case, battles in the countryside.



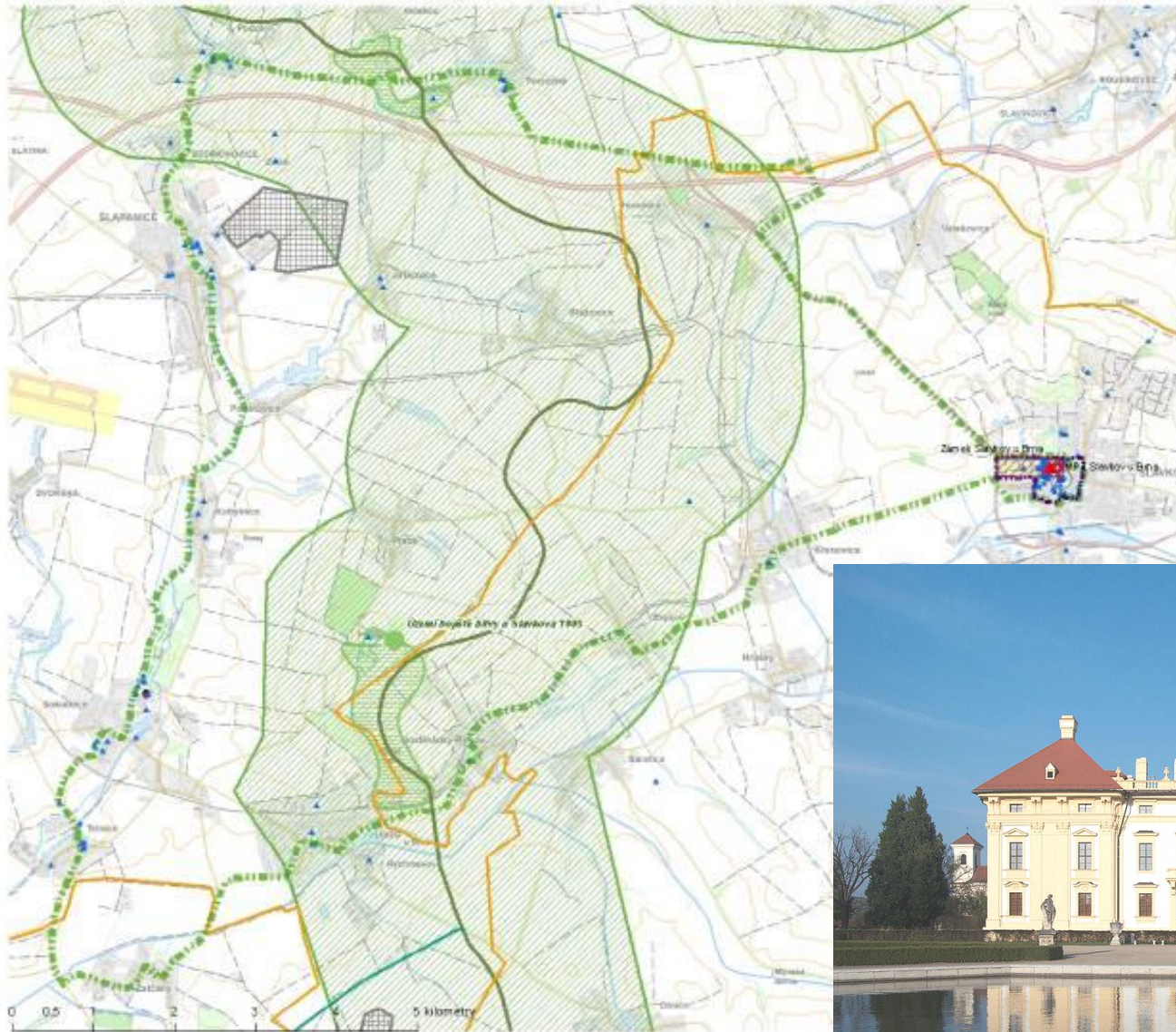
Mining Cultural Landscape

Formed about 800 years by the mining



Significant individual cultural monuments of the mining, mining and processing character, including several cores of historical mining towns

The Oldest KPZ „Austerlitz“ 1992 - „the associative landscape“



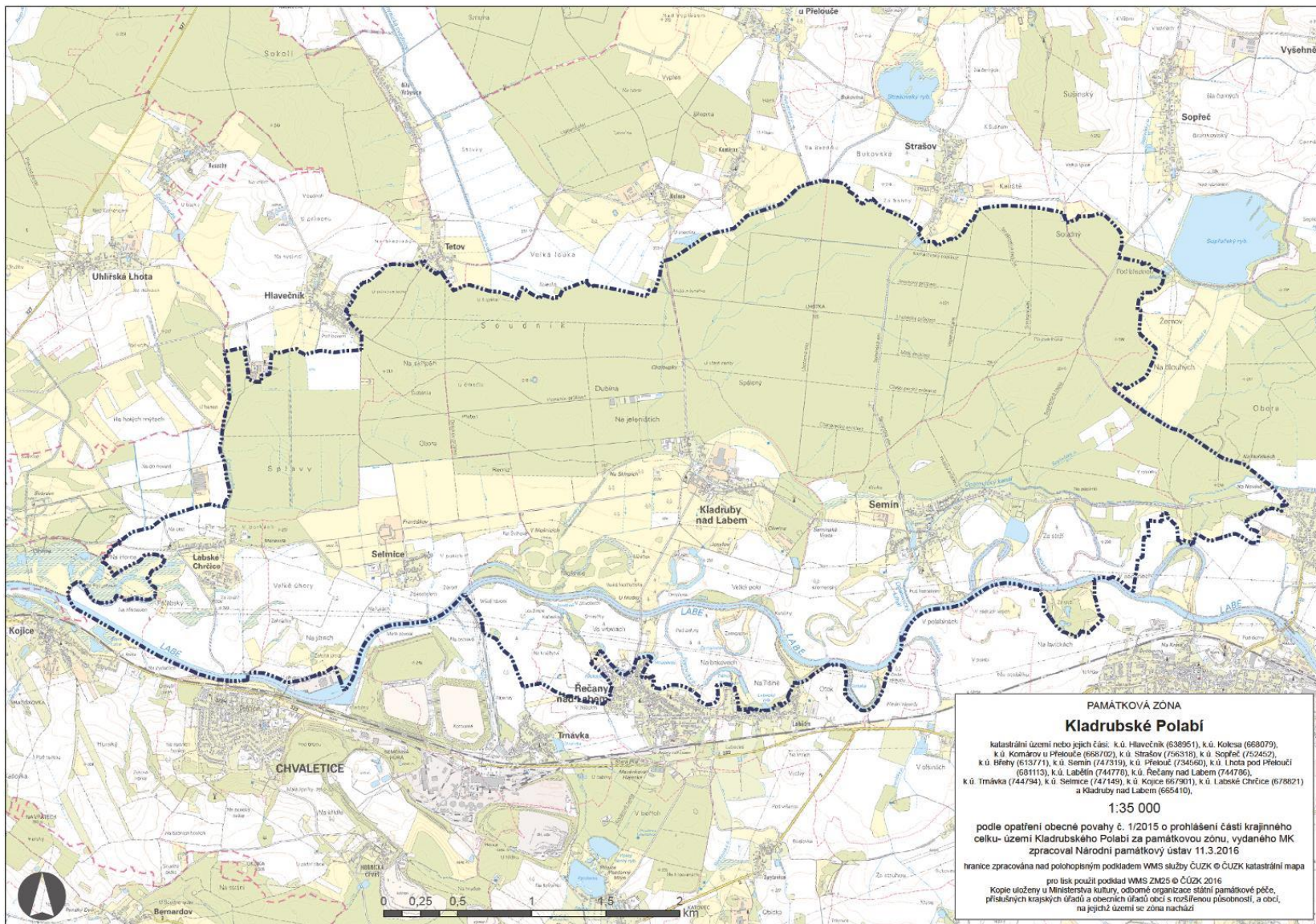
- městské památkové zóny
- ▲ národní kulturní památka
- ★ objekty památkového zájmu
- památková zóna
- ▨ NKP
- řešená KPZ

Landscape Heritage Zone



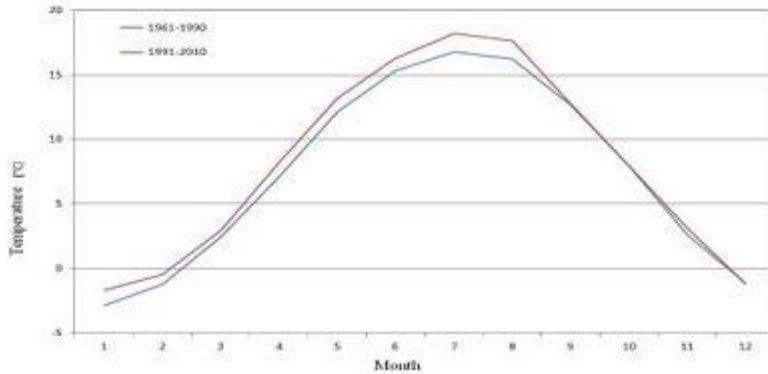
Castle Slavkov (Austerlitz) near Brno

Cultural Landscape „Kladrubské Polabí“

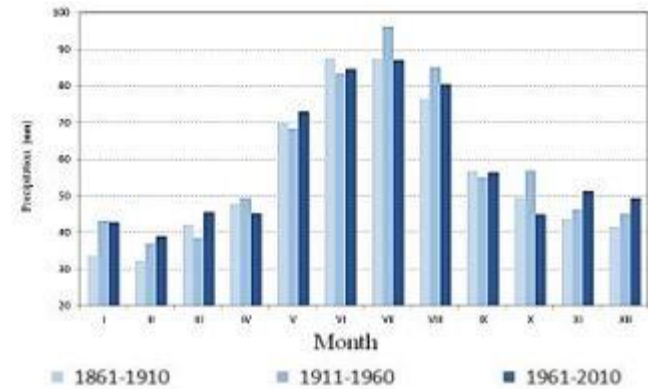


Climate Changes

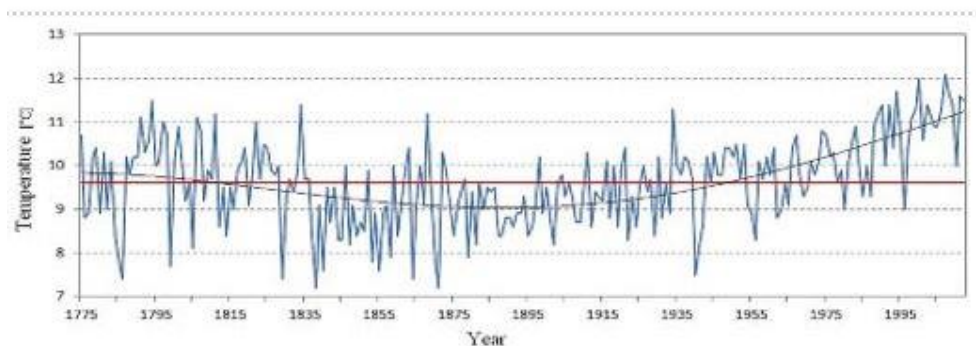
Annual course of average air temperature in the 1961–1990 and 1991–2010 periods



Changes of average annual precipitation in the last 150 years



Average annual air temperatures between 1775 and 2012, Prague-Klementinum



Climate Change Perspecive

Average annual air temperature - increased approx. by 1°C

Extremality of temperatures

- Summer: increase in the frequency of tropical summer days and tropical nights
- Winter: decrease in the frequency of frost, ice and arctic days

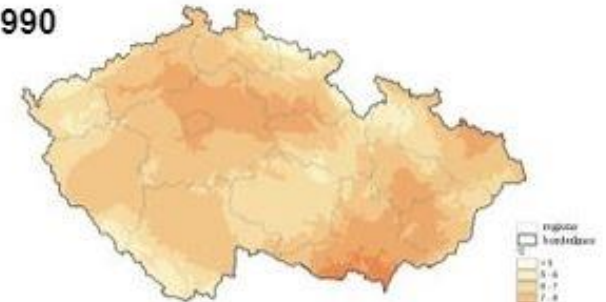
Average monthly precipitation

- Winter: decline by up to 20%
- Spring: increase by 2 to approximately 16%, regionally specific for summer and autumn
- Summer: mostly slight decline
- Autumn: in some areas decline by few %, elsewhere increase by 20–26%

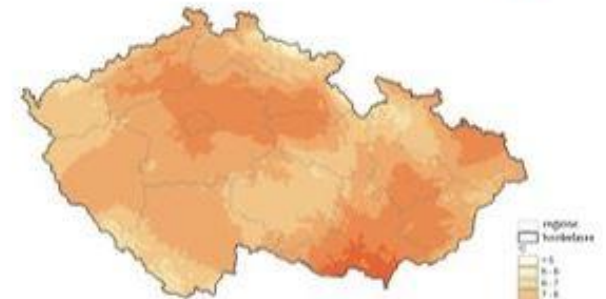
The annual **rainfall** totals will not change that much, but its distribution will change during the year (= **more extremes**).

Average annual air temperature

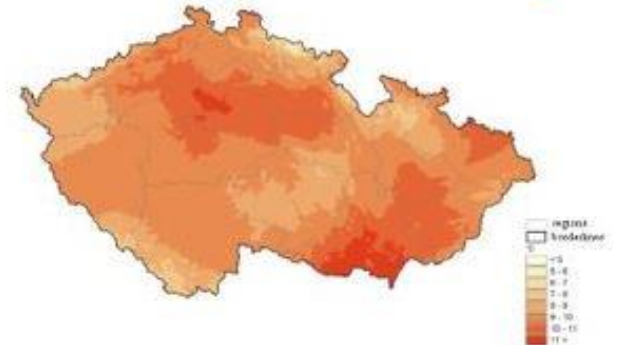
1961-1990



➤ scenario 2010-2039



➤ scenario 2040-2069



Adaptation to Climate Changes

CCH directly as well as indirectly influences health and lives of the population, environment and property including national heritage property.

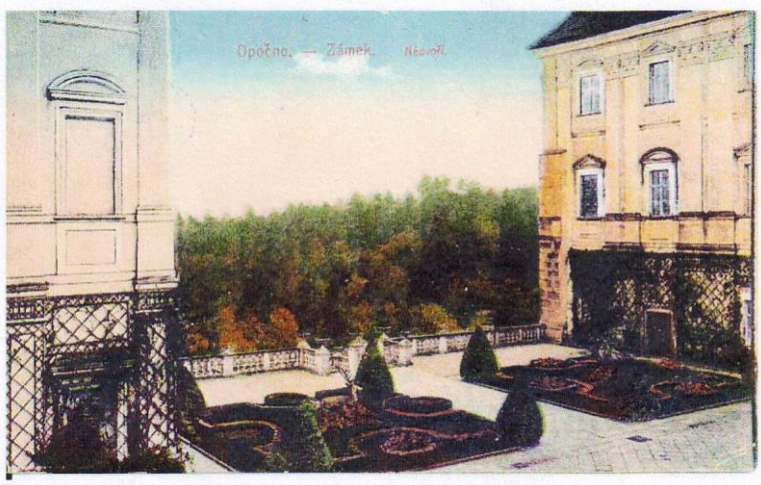
Strategy on Adaptation to Climate Change in the Czech Republic (actualised by 2020)

- Adopted by the Czech Government in 2015
- 10 areas/sectors of interest
- water regime in landscape and water management,
- forest management,
- agriculture,
- transportation,
- health and hygiene,
- urban landscape,
- biodiversity and ecosystem services,
- tourism and recreation,
- industry and energy,
- emergency events and protection of the population and environment

Cultural Heritage

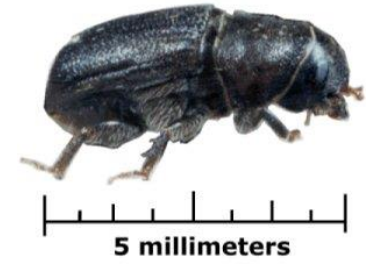
- has been included within the sectors:
urban landscape, tourism and recreation
- **new 11th sector – Cultural Heritage**
being discussed within the actualisation (2019-2020)
- **The National Action Plan for Adaptation to Climate Change (actualised by 2020)**
Adopted by the Czech Government in **2017**
- **5 manifestations of the climate change**
Each chapter identifies the key sectors affected by particular manifestations of CC, describes main impacts, vulnerability and risks in the Czech Republic
- **33 specific objectives + 1 cross-cutting** objective dedicated to education, training and awareness-raising
- **52 priority measures** => 160 priority tasks

Present Situation vs. Past



Opočno Castle – Spruces dried out

Bark Beetle



Lymantria Monacha





Wooden Pilots in Monasteries



Solutions

Projects to support alignment with the impact of climate changes

■ **Water maintenance**

Rehabilitation of historical water systems,
Renewal of historical ponds, river sites, water drives, ditch...
Planning and working on the possibilities of rainwater retention
Permeable road surfaces



■ Conducting and developing of **ecologically sustainable tourist industry**

Rehabilitation of Historical Rainwater Systems

Benedictine Monastery „Kladruby u Stříbra“

Protected as the National Cultural Monument





Present situation of destroyed Monastery .

Paradise
courtyard



Project - Rainwater Collecting

renewal historical water systems



retention basin

Before Revitalization



After Revitalization



Castle Frýdlant and Historic Water System Renovation



Historical Restoration of Castle Gardens with Whole Water Systems



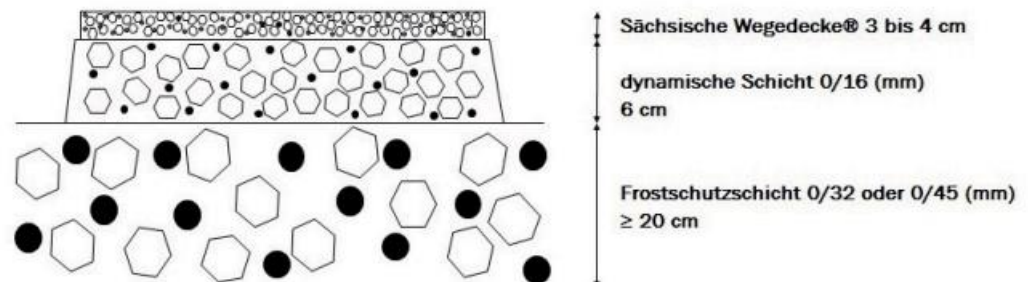
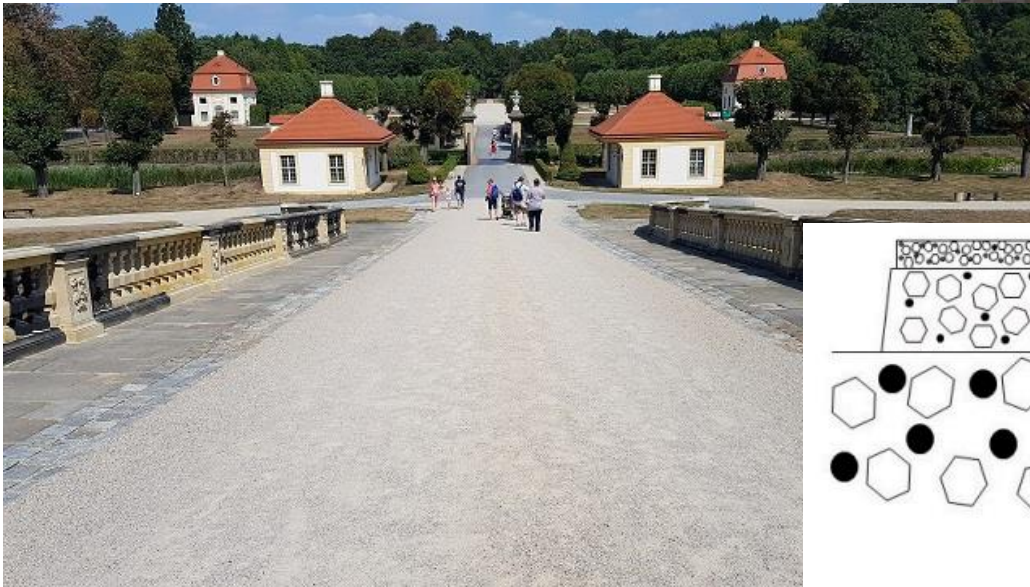
Pernštejn





Permeable Road Surfaces

- Surface that can easily withstand cyclists, utility vehicles or even cars
- Load capacity of 7.5 tons
- Cohesive surface which is impossible to damage by erosion



Petřín – Water Permeable Surface



Průhonice – Permeable Road Surface

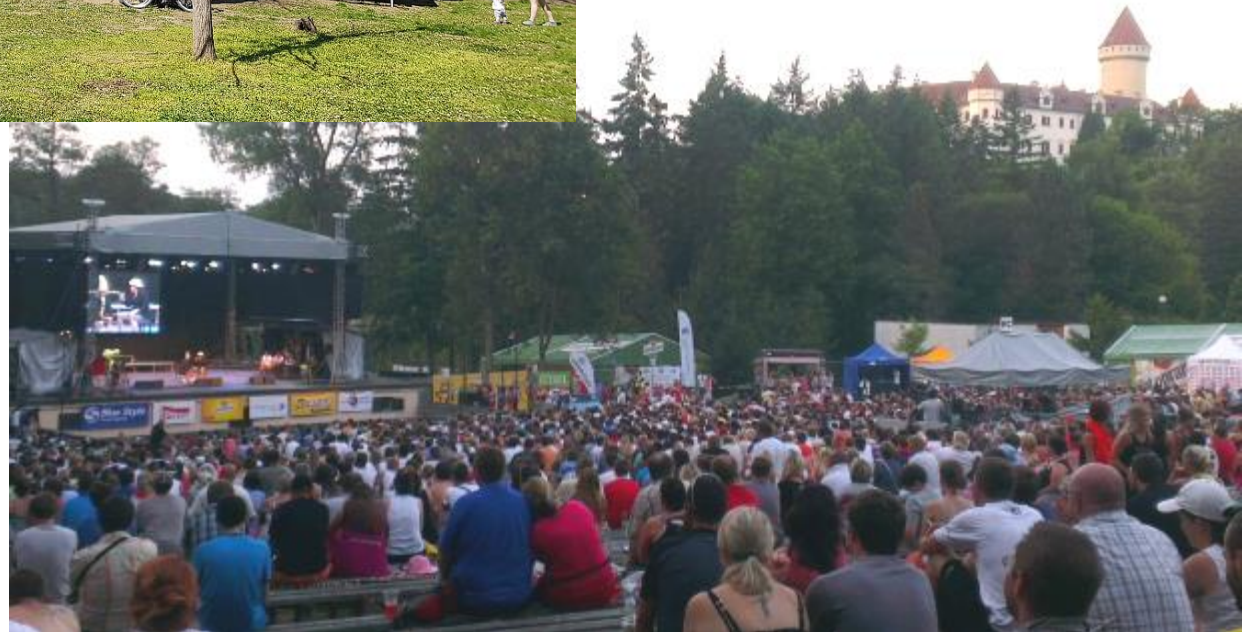
National Heritage Site and UNESCO World Heritage Site



Ecologically Sustainable Tourist Industry



„Soft Tourism“



Thank you for your attention

Ing. Sylvie Jarešová

Information resources and photographs in cooperation with:

Ministry of Environment

Ministry of Culture

NPU archive

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